

ABSTRACT

A series of static structures formed from a plurality of interconnected rigid compression members or struts and flexible tension members or guys (e.g. wire cables, chains or elastic cords). Each strut is in pure compression (i.e. no bending or twisting forces) and each guy is in pure tension. The struts are discontinuous in several embodiments of the invention, intersect at an internal or peripheral point in others, or radiate outwardly from an internal central point in still others. Three or four configurations of guy arrangements are described and claimed for each of the five embodiments of this invention. Self-Guyed Structures (SGS's) can be utilized as a stand-alone module or modules can be combined by connecting them at any point on a strut or guy in a nested (overlapping) or an adjacently attached configuration to assemble composite SGS's. Collapsible SGS's can be made by using a suitable means to disconnect struts from guys and/or a suitable means for elongating selected guys or shortening selected struts. For certain given design parameters, SGS's can be made more material efficient and lighter than previous similar structures and other conventional structures. Aesthetically pleasing designs for applications where the structure is to be visible can be readily achieved.